Stoller
Hanford Office

DOE-EM/GJ1095-2006

299-W15-199 (A7497)
Log Data Report

Borehole Information:

Borehole:	299-W15-199 (A7497)		Site:	216-Z-8 French Drain	
Coordinates (WA St Plane)		GWL[1] (ft) :	None	GWL Date:	11/22/05
North	East	Drill Date	Elevation (ft) (TOC)	Total Depth (ft)	Type
135649.652	566633.83	01/80	675.77	26	Cable

Casing Information:

Casing Type	Stickup (ft)	Outer Diameter (in.)	Inside Diameter (in.)	Thickness (in.)	Top (ft)	Bottom (ft)
Welded steel	1.9	6 5/8	6	5/16	1.9	26

Borehole Notes:

Casing diameter and stickup measurements were acquired using a caliper and steel tape. Logging data acquisition is referenced to the top of casing (TOC). Grout was emplaced around the 6-in. casing to 8 ft and at the bottom of the borehole.

Spectral Gamma Logging System (SGLS) Equipment Information:

Logging System:	Gamma 1E		Type:	SGLS (70%) SN: 34TP40587A
Effective Calibration Date:	03/04/05	Calibration Reference:	DOE/EM-GJ864-2005	
		Logging Procedure:	MAC-HGLP 1.6.5, Rev. 0	

Spectral Gamma Logging System (SGLS) Log Run Information:

Log Run	1	2 Repeat			
Date	11/28/05	11/28/05			
Logging Engineer	Spatz	Spatz			
Start Depth (ft)	26.0	15.0			
Finish Depth (ft)	2.0	10.0			
Count Time (sec)	100	100			
Live/Real	R	R			
Shield (Y/N)	N	N			
MSA Interval (ft)	1.0	1.0			
ft/min	N/A[2]	N/A			
Pre-Verification	AE134CAB	AE134CAB			
Start File	AE134000	AE134025			
Finish File	AE134024	AE134030			
Post-Verification	AE134CAA	AE134CAA			
Depth Return Error (in.)	- 1	0			

Log Run	1	2 Repeat			
Comments	No fine-gain adjustment	No fine-gain adjustment			

Logging Operation Notes:

Logging was conducted with a centralizer on the sonde. A repeat section was collected to evaluate the logging system's performance.

Analysis Notes:

Analyst:	Henwood	Date:	01/04/06	Reference:	GJO-HGLP 1.6.3, Rev. 0

Pre-run and post-run verifications for the logging systems were performed before and after the day's data acquisition. Acceptance criteria were met.

SGLS spectra were processed in batch mode using APTEC SUPERVISOR to identify individual energy peaks and determine count rates. Concentrations were calculated using the EXCEL worksheet template identified as G1EMar05.xls. A casing correction for 0.3125-in.-thick casing was applied to the SGLS data. No corrections for dead time or water were required.

Results and Interpretations:

^{137}Cs was detected by the SGLS during logging of this borehole at the ground surface (2 ft below top of casing) at a concentration of approximately 0.2 pCi/g.

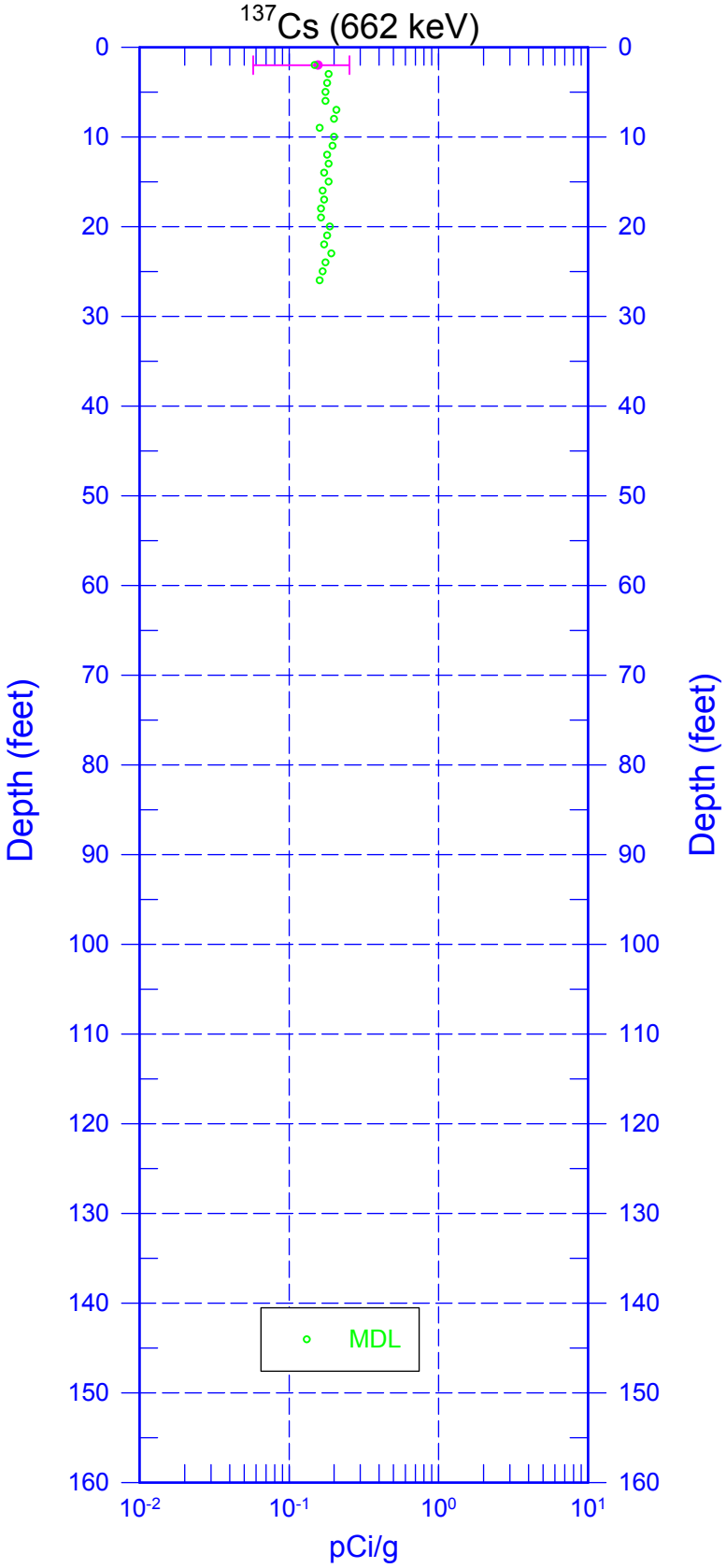
The repeat section for the SGLS indicates good agreement for the naturally occurring radionuclides.

List of Plots:

Man-Made Radionuclides
Natural Gamma Logs
Combination Plot
Total Gamma and Dead Time
Repeat Section of Natural Gamma Logs

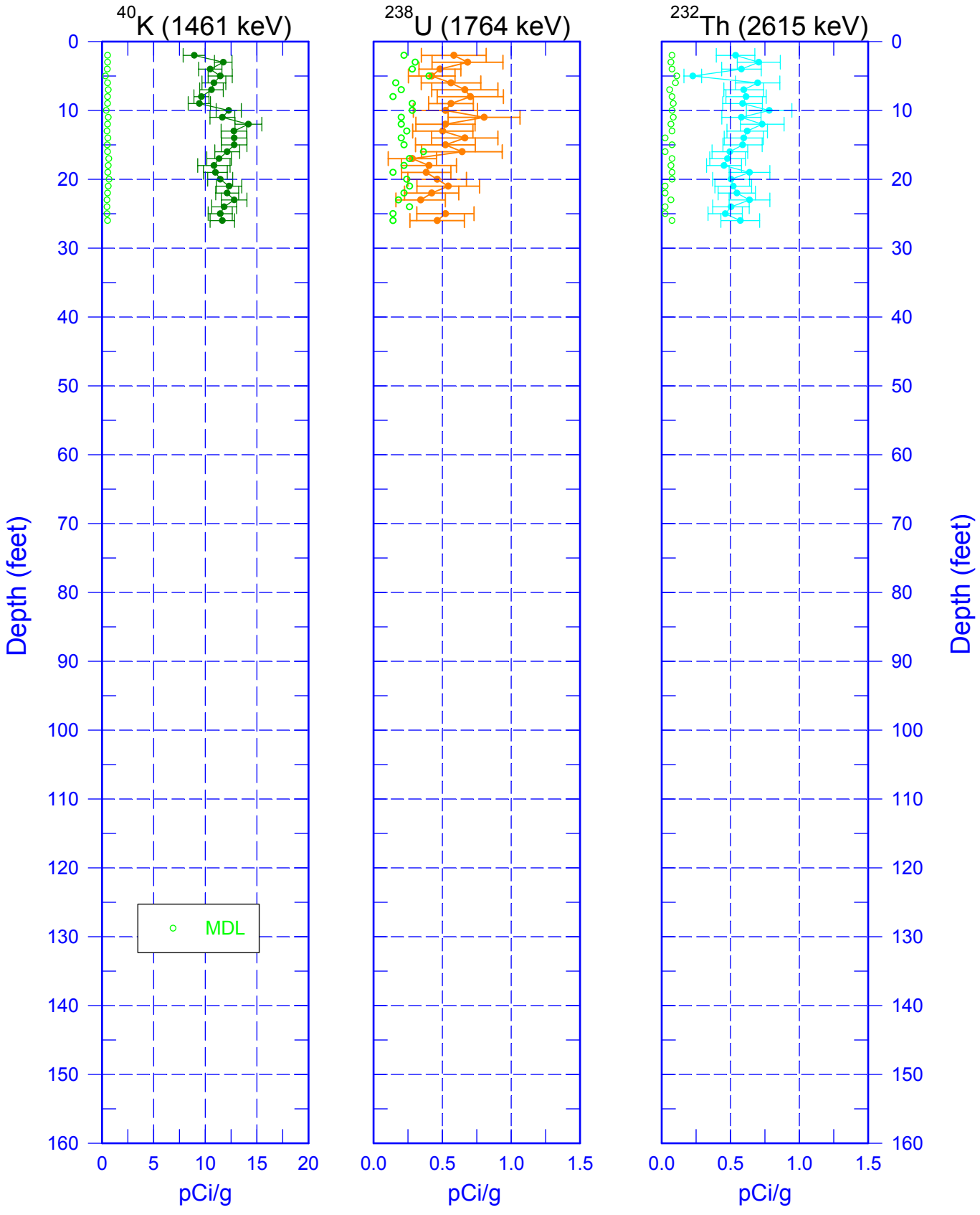
[1] GWL – groundwater level
[2] N/A – not applicable

299-W15-199 (A7497)
Man-Made Radionuclides



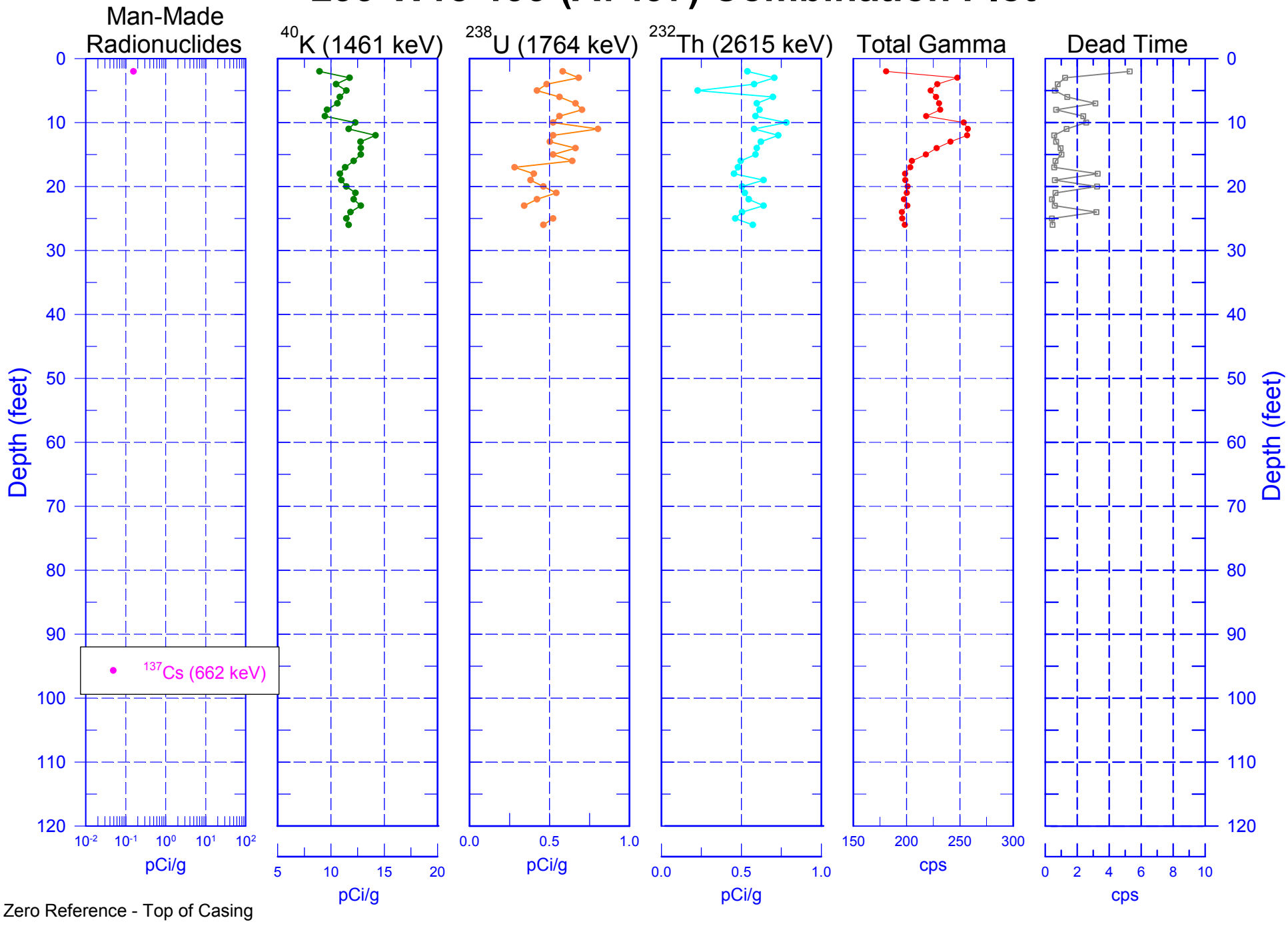
Zero Reference - Top of Casing

299-W15-199 (A7497)
Natural Gamma Logs



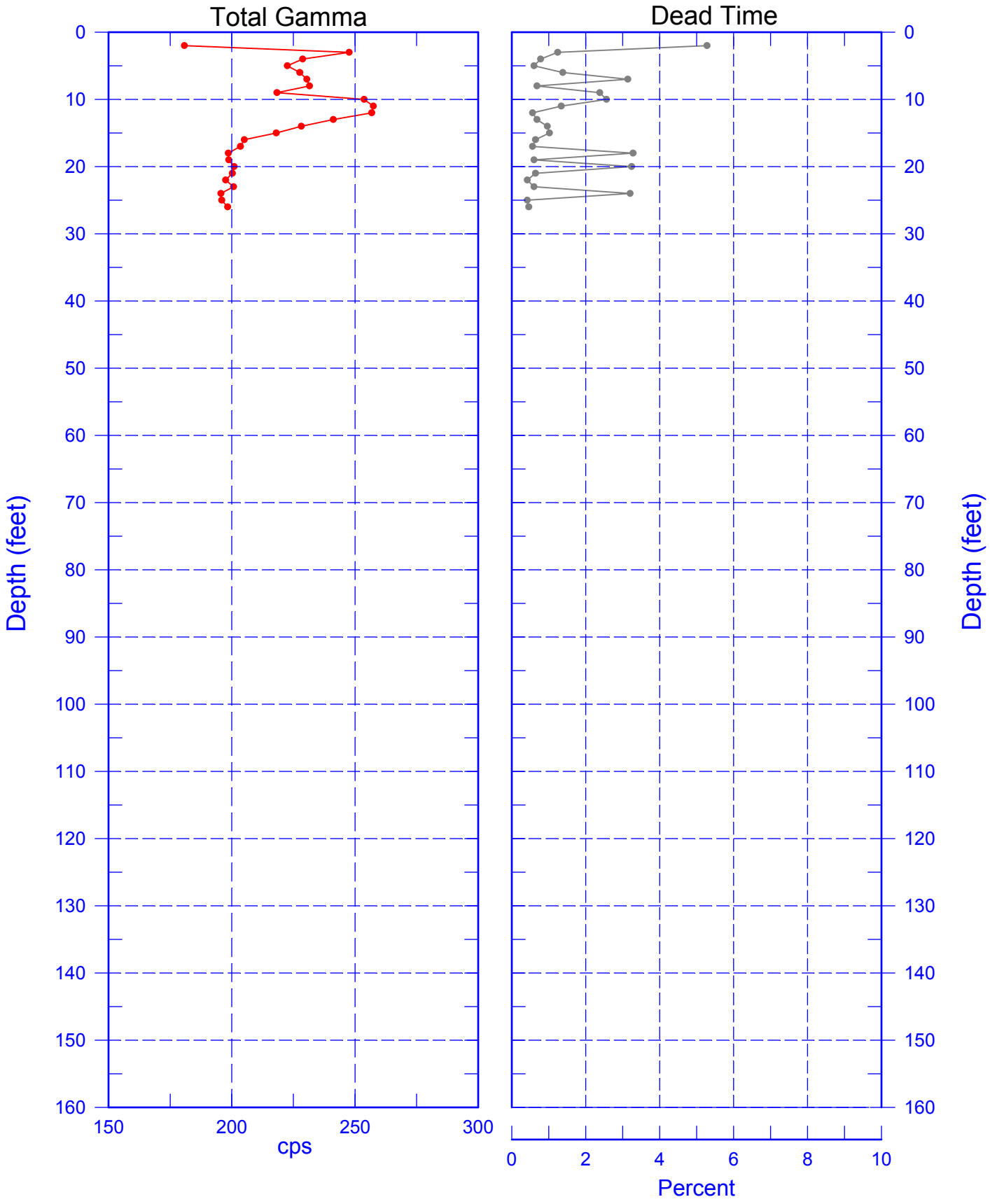
Zero Reference = Top of Casing

299-W15-199 (A7497) Combination Plot



Zero Reference - Top of Casing

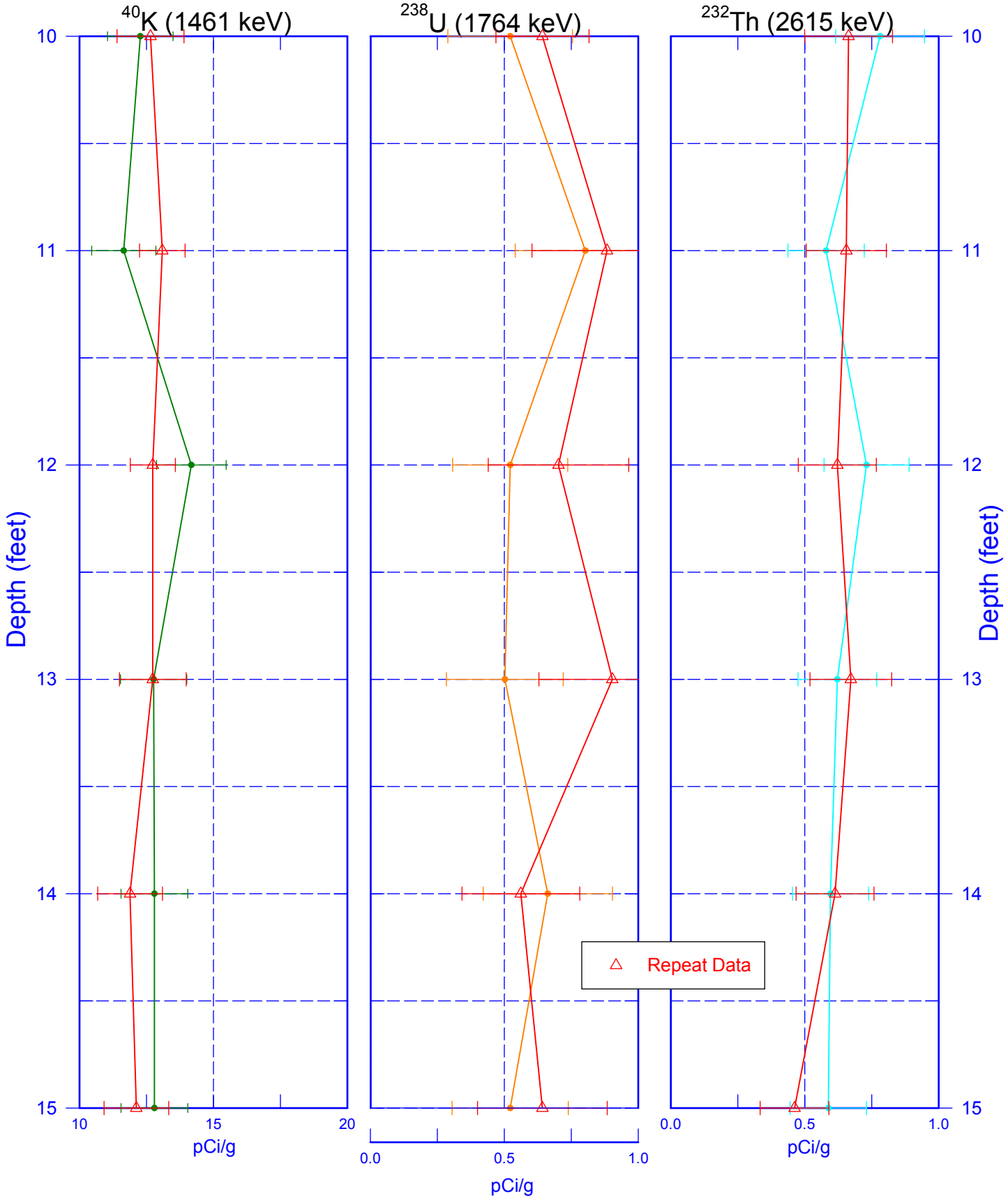
299-W15-199 (A7497)
Total Gamma & Dead Time



Reference - Top of Casing

299-W15-199 (A7497)

Repeat Section of Natural Gamma Logs



Zero Reference - Top of Casing